METHOD 2: PERCENT GLAZING CALCULATION WORKSHEET

Name:_____ Occupation:_____

Project Address:_____ Date:_____

WALL AREA

Unburried Basement[1]	Height	x Width	= Area, ft²
Wall 1			
Wall 2			
Wall 3			
Wall 4			
Wall 5			
First Floor			
Wall 1			
Wall 2			
Wall 3			
Wall 4			
Wall 5			
		Subtotal	

Second Floor	Height	x Width	= Area, ft²
Wall 1			
Wall 2			
Wall 3			
Wall 4			
Wall 5			
Miscellaneous			
Attic kneewall			
Gable end walls [2]			
Dormer walls			
Other:			
Other:			
		Subtotal	

[1] Do not include basement walls greater than 50% below grade or crawl space walls.
[2] When gable end walls enclose a heated spaces.

Total: _____ + _____ = _____ ft²

GLAZING AREA (WINDOWS, DOORS[2], AND SKYLIGHTS)

Basement[1]	Height	x Width	x Number	= Area, ft²
Window 1				
Window 2				
Window 3				
Door 1				
Door 2				
First Floor				
Window 1				
Window 2				
Window 3				
Window 4				
Window 5				
Door 1				
Door 2				
Door 3				
			Subtotal	

Second Floor	Height	x Width	x Number	= Area, ft²
Window 1				
Window 2				
Window 3				
Window 4				
Door 1				
Third Floor				
Window 1				
Window 2				
Window 3				
Miscellaneous				
Dormer window 1				
Dormer window 2				
Skylight 1				
Skylight 2				
			Subtotal	

[1] When basement is heated or cooled.
[2] Glass area of doors only; use entire door area if glass area is greater than 50% of the total door area.

Total: _____ + _____ = _____ ft²

PERCENT GLAZING

Total Glazing Area		Total Wall Area				
	÷		x 100 =		%	←Percent Glazing

REQUIRED U-FACTOR AND R-VALUES (from Tables 7A or 7B)

Location		Value
Glazing U-factor		
Ceiling/floors over outside air R-value		
Wood framed wall R-value		
Floor over unheated spaces R-value		
Concrete/masonry wall R-value	Buried	
	Above grade	
Slab-on-grade R-value		
Crawl space wall R-value		

TABLE 7A – U-FACTOR AND R-VALUES FOR BUILDINGS WITH BASEMENTS

Percent glazing (as calculated on worksheet)	Glazing U-factor	Ceiling R-value[3]	Wood framed wall R-value	Floor over unheated space R-value	Concrete/masonry wall R-value[4]		Slab-on-grade R-value[1]	Crawl space wall R-value[2]
					Buried	Above grade		
0 – 8	0.55	30	13	15	8	12	2	12
8 – 12	0.50	38	14	19	9	12	5	16
12 – 15	0.45	38	16	19	9	13	6	17
15 – 18	0.37	38	15	19	9	13	6	16
18 – 20	0.37	38	16	19	9	13	6	16
20 – 25	0.33	38	19	19	9	16	6	17

TABLE 7B – U-FACTOR AND R-VALUES FOR BUILDINGS WITH NO BASEMENTS

Percent glazing	Glazing U-factor	Ceiling R-value[3]	Wood framed wall R-value	Floor over unheated space R-value	Slab-on-grade R-value[1]	Crawl space wall R-value[2]
0 – 8	0.87	30	11	19	4	13
8 – 12	0.67	30	11	19	4	13
12 – 16	0.50	30	11	19	4	13
16 – 20	0.42	30	11	19	4	13
20 – 24	0.36	30	11	19	4	13
24 – 27	0.36	30	13	19	4	13
27 – 32	0.36	30	19	19	4	13

[1] Add R-2 to table value if concrete slab is heated by the embedment of a heating device; see Figure 1 for insulation placement requirements.

[2] See Figure 2 for placement requirements.

[3] Use this value for floors over outside air such as floors supported by posts, overhangs, and floors of bay windows.

[4] Basement walls are considered above grade when 50% or more of its area is above grade.

DON'T FORGET:

- Do not include basement walls if the basement is NOT heated or cooled. In those cases, the first floor is a floor over an unheated space.
- Doors with glass area greater than 50% of the total door area is considered a glazing area.
- Kneewalls, skylight shaft walls, and dormer walls must be included in wall area.
- Rim joists, the vertical area between floors, is to be included in wall area.
- Floors over outside air, such as floors supported by posts, overhangs, and floors of bay windows, must be insulated equal to ceilings.
- Walls between the house and garage must be included in wall area.
- The triangular gable end walls separating a heated or cooled space, such as in a cathedral ceiling condition or habitable attic space, must be included in wall area.

FIGURE 1: SLAB-ON-GRADE INSULATION REQUIREMENTS

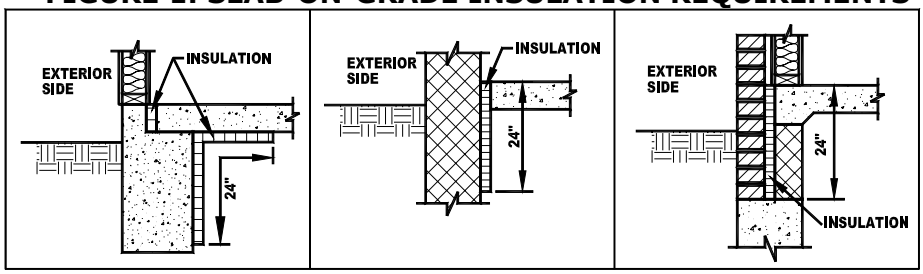

FIGURE 2: CRAWL SPACE WALL INSULATION REQUIREMENTS